COMPREHENSIVE STRATEGIES TO PROTECT DRINKING WATER FROM HARMFUL ALGAL BLOOMS

July 7

12:00PM CST

Mitigation of Internal Nutrient Loads in Drinking Water Sources

~ 1.5 hours

With the increasing occurrence of harmful algal blooms (HABs), and no silver-bullet solution, development of innovative management practices and technology has come to the forefront.

Our first presentation by Dr. Bob Kortmann will review the structure of thermal stratification and mechanisms of internal loading of anaerobic respiration products and soluble reactive phosphorus that stimulates cyanobacteria blooms. A variety of management methods will be reviewed for controlling internal loading in source water reservoir systems, including: Artificial Circulation Technologies, Hypolimnetic Aeration, Depth-Selective Layer Aeration, and Oxygenation Systems. Advantages, disadvantages, and risk of adverse impacts will be identified for each method.

Our second presentation by Dr. Elizabeth Crafton-Nelson provides insight on how to leverage new technology and integrated practices to curb HABs. This presentation highlights key information that will allow water resource managers to tailor a management program that includes both short- and long-term strategies, to actively manage HABs now and work to prevent them in the future.



Dr. Kortmann earned his Ph.D. in Applied Limnology and Ecosystem Ecology in an interdisciplinary program in the Biological Sciences, Natural Resources, and Engineering Schools at the University of Connecticut. He has published dozens of papers on applied limnology of supply source water systems, controlling cyanobacteria blooms, and lake restoration. Additionally, Dr. Kortmann invented a number of naturalistic lake restoration technologies, was awarded four US Patents, and was awarded the Technology Innovator Award by EPA Region 1 for inventing Layer Aeration.



Dr. Crafton-Nelson is a Source Water Quality Engineer with Hazen and Sawyer. Elizabeth assists utilities across the country by working to increase their source water quality and treatability. Her source water management approach encompasses both short and long term practices for a wide variety of issues and risk assessment. Elizabeth received her PhD from the University of Akron where she studied cyanobacteria and cyanobacteria dominated harmful algal blooms.

The USACE Invasive Species Leadership Team in collaboration with the Aquatic Plant Management Society, North American Lake Management Society, and the American Water Works Association will summarize the latest research and technical information on management strategies to encourage better integration and facilitation in the protection of drinking water.





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